I hereby swear, under penalty of perjury, that the foregoing is true to the best of my knowledge and belief.

Marius Schwartz

Marius Schwartz

Subscribed and sworn before me this 15th day of May, 1997.

Vivian R Lewis

Notary Public
My Commission Expires March 31, 2001

Table 1: Telecommunications Revenues (1995) [1]

1. All LECs, and BOCs alone	(1) All LECs ($ billion)	(2) % of Total Telecom Revenues[2]	(3) BOCs ($ billion)	(4) % of Revenues of All LECs[2]
Local Revenues	**56.6**	**36.9%**	**43.0**	**76%**
Local Exchange Service [3]	45.0	29.3%	35.2	78%
Local Private Line	1.2	0.8%	0.9	75%
Miscellaneous Local Revenues [4]	10.4	6.8%	6.9	66%
Network Access Services [5]	**33.4**	**21.8%**	**22.5**	**67%**
Federal Subscriber Line Charges	7.0	4.6%	5.8	83%[6]
Access Charges paid by LD Carriers	26.4	17.2%	16.7	64%[6]
Toll Revenues	**12.8**	**8.3%**	**9.5**	**74%**
Switched Service (intraLATA toll)	10.1	6.6%	7.3	73%
Miscellaneous Toll Revenues [7]	2.7	1.7%	2.2	81%
Total All Reporting LECs	**102.8**	**67.0%**	**75.0**	
2. CAPs and CLECs	**0.6**	**0.4%**		
3. LD Carriers' Net Toll Revenues [8]	**50.0**	**32.6%**		
Total Telecommunications Revenues	**153.4**	**100.0%**		

[1] Source: FCC, Telecommunication Relay Service (TRS) Fund Worksheet Data, December 1996. All data are for 1995. Abbreviations: LECs – Local Exchange Carriers; CAPs - Competitive Access Providers; CLECs - Competitive Local Exchange Carriers; BOCs – Bell Operating Companies; LD – Long Distance.

[2] Col. (2) is $ bn in Col. (1) ÷ $153.4 bn (Total Telecommunications Revenues). Col. (4) is Col. (3) as % of Col. (1).

[3] Includes primarily revenues from Basic Local Services (approx. $34 bn) and some vertical services.

[4] Includes primarily Directory Revenues (approx. $4 bn), Nonregulated Revenues (approx. $3.6 bn), and Carrier Billing and Collection Revenues (approx. $1 bn).

[5] Of which $8.9 bn is intrastate access, and $24.5 bn is interstate (including $7 bn in Federal Subscriber Line Charges). The FCC's Statistics of Communications Common Carriers 1995/96 (table 2.9) breaks down interstate access charges paid by LD carriers (i.e. not including SLC) into switched and dedicated access, with switched access accounting for 80%. No comparable breakdown is reported for intrastate access.

[6] This percentage is computed using data from the FCC's Statistics of Communications Common Carriers 1995/96 (table 2.9, lines 154 to 158), which reports the break-down of BOCs' Network Access Revenues in SLC and Access Charges paid by LD Carriers. TRS Fund Worksheet Data does not report such information.

[7] Includes $1.6 bn in Operator Service, Pay Telephone and Card Revenues, $.9 bn in Long Distance Private Line Service, and $.25 bn in All Other Long Distance Revenues.

[8] Total Gross Revenues of Long-Distance Carriers are $76.4 bn, of which $26.4 bn were paid in access charges to LECs. The $76.4 bn figure includes approx. $3.3 bn from intraLATA toll (AT&T estimate), and the rest is interLATA. Of the $76.4 bn, 93% accrued to IXCs, 5% to Toll Resellers and the rest to Operator Service Providers, Pre-Paid Calling Card Providers, Pay Telephone Providers and Others.

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EDUCATION

University of California, Los Angeles: Ph.D. in Economics, September 1982
University of California, Los Angeles: M.A. in Economics, March 1978
London School of Economics: B.Sc. in Economics (1st Class Honors), August 1976

PROFESSIONAL EXPERIENCE

Georgetown University, Department of Economics

Professor, June 1993–present
Associate Professor, August 1987–May 1993
Assistant Professor, January 1983–July 1987 (part time in Fall 1982)

Director of Graduate Studies Spring 1993-Spring 1995

Undergraduate Courses Taught

- Antitrust
- Industrial Organization
- International Economics
- Macroeconomic Theory
- Mergers & Corporate Control
- Microeconomic Principles
- Topics in Competition and Regulation

Graduate Courses Taught

- Industrial Organization
- Macroeconomic Theory I
- Macroeconomic Theory II
- Monetary Policy
- Microeconomics: special course in Pew Freedom Fellows Program

Council of Economic Advisers, Executive Office of the President

Senior Economist, June 1995–May 1996 (part-time consultant April & May 1995 and June 1996).

Served as the senior economist principally responsible for antitrust, regulated industries, and other industrial organization matters. Work included: 1996 Telecommunications Act; competition in international satellite services; competition in the electric utility industry; reforming the patent and trademark office; intellectual property rights; international trade disputes; health care.

U.S. Department of Justice, Antitrust Division

Consultant, June 1996–present
Economist (part time), January 1983–May 1995
Economist (full time), October 1980–December 1982

Regulatory

Analyzed various competitive issues posed by Bell Company entry into long-distance telecommunications services and submitted affidavit to Federal Communications Commission on behalf of Justice Department.

Testimony

Presented expert testimony to courts in successful challenges of merger and of consent decree.

Mergers

Investigated mergers in several industries and helped to design appropriate relief.

Business Practices

Worked on vertical-restraints cases (tying, exclusive dealing, resale price maintenance, exclusive territorial arrangements) and horizontal-conduct cases (collusion and predation).

Legislation, Congressional Matters, Division Reports

Provided input to Antitrust Division's Merger Guidelines (1992) and Vertical Restraints Guidelines (1984). Helped draft Division comments on various Congressional legislation and responses to inquiries in several areas including price discrimination and dealer termination

Cooperation with Foreign Competition Authorities

Interacted with competition officials from several countries and agencies Helped comment on following documents: Canadian Fair Trade Commission's guidelines on predatory pricing, and on price discrimination; Japanese Fair Trade Commission's guidelines on distribution systems, on sole import distributorships, and on joint R&D; Korean Fair Trade Commission's guidelines on unfair trade practices in international agreements, OECD papers on predatory pricing, on competition policy and franchising, and on interaction between trade and competition policies.

Other Professional Experience

Senior Advisor, The Brattle Group, Economic, Environmental & Management Counsel, Cambridge, MA and Washington DC, November 1996-present.

OECD: Lecturer in Seminar on Vertical Restraints for competition officials from Czech Republic, Hungary, Poland, and Slovakia in Cracow, Poland, November 20-22, 1995.

Consultant in private antitrust and regulatory matters.

ILADES: Participated in designing and teaching a short course in industrial organization to policymakers and executives in Santiago, Chile, June 1994.

Pew Freedom Fellows Program: Taught short course in microeconomics to twenty Fellows from transition economies, annually, January 1993–present. (Fellows hold middle-level or upper-level positions in government and private business.)

Center for Economic Development, Slovakia: Academic Advisory Board.

World Bank: Consultant.

Abt Associates/USAID: Advised Government of Zimbabwe in Harare on formulating antitrust law, summer 1993 (consultant to Abt, work funded by USAID's Implementing Policy Change Project).

LANGUAGES

French, Hebrew, Romanian (speak and read all three fairly well; write French and Hebrew adequately)

HONORS

U.S. Department of Justice, Antitrust Division: Special Achievement Awards
Brookings Institution: Research Fellow, 1979-80
University of California, Los Angeles: Earhart Fellowship, 1977-78
University of California, Los Angeles: Regents Fellowship, 1976-77
London School of Economics: Premchand Prize in Monetary Economics, 1976

PUBLICATIONS

Refereed Journals

"A Quality-Signaling Rationale for Aftermarket Tying," *Antitrust Law Journal,* vol. 64 (Winter 1996): 387-404 (with Gregory J. Werden).

"The Non-Existence of Pairwise-Proof Equilibrium," *Economics Letters,* vol. 49 (1995): 251-259 (with R. Preston McAfee).

"Equity as a Call Option on Assets: Some Tests for Failed Banks," *Economics Letters*, vol. 48 (1995): 389-397 (with Behzad Diba and Chia-Hsiang Guo).

"Parallel Imports, Demand Dispersion, and International Price Discrimination," *Journal of International Economics*, vol 37 (November 1994): 167-195 (with David Malueg).

"Opportunism in Multilateral Vertical Contracting: Nondiscrimination, Exclusivity, and Uniformity," *American Economic Review*, vol. 84 (March 1994): 210–230 (with R. Preston McAfee)

"Preemptive Investment, Toehold Entry, and the Mimicking Principle," *RAND Journal of Economics*, vol 22 (Spring 1991): 1–13 (with David Malueg)

"Patent Protection through Discriminatory Exclusion of Imports," *Review of Industrial Organization*, vol 6 (No 3, 1991): 231–246

"Third–Degree Price Discrimination and Output: Generalizing a Welfare Result," *American Economic Review*, vol. 80 (December 1990): 1259-1262.

"Investments in Oligopoly: Welfare Effects and Tests for Predation," *Oxford Economic Papers*, vol. 41 (October 1989): 698-719.

"Entry Deterrence Externalities and Relative Firm Size," *International Journal of Industrial Organization*, vol. 6 (June 1988): 181-197 (with Michael Baumann).

"The Competitive Effects of Vertical Agreements: Comment," *American Economic Review*, vol. 77 (December 1987): 1063-1068.

"The Nature and Scope of Contestability Theory," *Oxford Economic Papers*, vol. 38 Supplement (November 1986): 37-57.
This issue of the journal was published in parallel as *Strategic Behavior and Industrial Competition*. Morris et al Eds., Oxford University Press, 1986

"The Perverse Effects of the Robinson-Patman Act," *Antitrust Bulletin*, vol. 31 (Fall 1986): 733-757.

"Divisionalization and Entry Deterrence," *Quarterly Journal of Economics*, vol. 101 (May 1986): 307-321 (with Earl Thompson).

"*Illinois Brick* and the Deterrence of Antitrust Violations," *Hastings Law Journal*, vol. 35 (March 1984): 629–668 (with Gregory Werden).

"Contestable Markets: An Uprising in the Theory of Industry Structure: Comment," *American Economic Review*, vol. 73 (June 1983): 488-490 (with Robert Reynolds).

Monographs, Book Reviews, and Other Publications

"Telecommunications Reform in the United States: Promises and Pitfalls," in Paul J.J. Welfens and George Yarrow, Eds., *Telecommunications and Energy in Systemic Transformation*, Heidelberg and New York: Springer, 1997.

"Protecting Intellectual Property by Excluding Infringing Imports: An Economist's View of Section 337 of the U.S. Tariff Act," *Patent World*, Issue 25 (September 1990): 29-35.

Review Essay of: Jean Tirole, The Theory of Industrial Organization, MIT Press, 1988. *Managerial and Decision Economics*, Vol. 11 (May 1990): 131-139.

Book Review of J. Stiglitz and F. Mathewson eds., New Developments in the Analysis of Market Structure, MIT Press, 1988. *Journal of Economic Literature*, Vol. 36 (March 1988): 133-135.

"Vertical Restraints," published in German by *Forschungsinstitut fur Wirtschaftsverfassung und Wettbewerer* by E.V. Koln, Heft 5, 1984.

DISCUSSION PAPERS AND WORK IN PROGRESS

"Towards Competition in International Satellite Services: Rethinking the Role of INTELSAT," paper distributed at OECD Ad Hoc Meeting of Experts on Competition in Satellite Services, Paris, June 1995 (with Joseph E. Stiglitz and Eric Wolff).

"Competitive Markets in Generation: Economic Theory and Public Policy," paper presented at conference on "Electric Utility Restructuring: Whither Competition?" organized by International Association for Energy Economics Los Angeles Chapter, and Micronomics Inc., Los Angeles, May 1995.

"Exclusive Dealing for Rent Extraction," mimeo, January 1994 (with Serge Moresi and Francis O'Toole).

"Option Values of Deposit Insurance and Market Values of Net Worth: Some Evidence for U.S.Banks," mimeo, December, 1992 (with Behzad Diba and Chia-Hsiang Guo).

"Do Sunk Costs Discourage or Encourage Collusion?" U.S. Department of Justice, Antitrust Division, EPO Discussion Paper 85-10 (September 1985).

"Signalling Equilibria Based on Sensible Beliefs: Limit Pricing Under Incomplete Information," U.S. Department of Justice, Antitrust Division, EPO Discussion Paper 84-4 (May 1984) (with Maxim Engers).

OTHER SCHOLARLY ACTIVITIES

Seminars Presented

Bellcore
Bureau of Competition Policy, Industry Canada
California State University, Hayward
Columbia University
ENSAE, Paris
Federal Trade Commission
Georgetown University
George Washington University
International Trade Commission
Johns Hopkins University
New York University
Pennsylvania State University
Simon Fraser University
Tulane University
U.S. Department of Justice
University of Alberta
University of British Columbia
University of Calgary
University of California, Davis
University of California, Los Angeles
University of Maryland
University of Montreal
University of Pennsylvania
University of Toronto
University of Virginia

Conferences: Speaker or Discussant

Economics of Interconnection Forum, Federal Communications Commission, Washington DC, May 1996
Authors' Symposium on Competition Policy and Intellectual Property Rights, Canadian Bureau of Competition, Aylmer, Quebec, May 1996
Electric Generation Association, Annual Meetings, West Palm Beach, April 1996
"Wheeling & Dealing: Opportunities and Challenges in the New Electric Industry," conference sponsored by the Center for Regulatory Studies, Illinois State University and the Institute of Government and Public Affairs, University of Illinois- Urbana, Chicago, April 1996
"New Social and Economic Approaches to a Multimedia World," OECD Symposium, Tokyo, March 1996
"Telecommunications and Energy Regulation in Transition Economies," Center for Economic Development, Bratislava, October 1995
"Electric Utility Restructuring: Whither Competition?" organized by International Association for Energy Economics Los Angeles Chapter, and Micronomics Inc., Los Angeles, May 1995.
"New Learning on Barriers to Entry in Competition Policy," Canadian Bureau of Competition, Ottawa, March 1995
Southeastern Economic Theory Meetings, Charlottesville, October 1994
EARIE Conference, Tel Aviv, September 1993
Midwest International Economics Meetings, Pittsburgh, October 1992
Latin American Econometric Society, Mexico City, September 1992
Conference on Industrial Organization, Carleton University, Ottawa, July 1991
Workshop on Strategic and Dynamic Aspects of International Trade, SUNY at Stony Brook, July 1991

AEI Conference on "Innovation, Intellectual Property and World Competition," Washington DC, September 1990
EARIE Conference, Lisbon, September 1990
Conference on "International Trade and Technology," Brussels and London, November 1989
EARIE Conference, Budapest, August 1989
Conference on Strategy and Market Structure, Dundee University, Dundee, August 1988
Conference on "Firm Ownership and Competition," Graduate School of Business, Stanford University, June 1987
EARIE Conference, Berlin, August 1986
AEA Annual Meetings, Dallas, December 1984

Referee for Professional Journals

American Economic Review
Canadian Journal of Economics
Economica
Economic Journal
International Economic Review
International Journal of Industrial Organization
Journal of Business
Journal of Business Economics
Journal of Economic Dynamics and Control
Journal of Economic Theory
Journal of Economics and Management Strategy
Journal of Industrial Economics
Journal of Political Economy
Managerial and Decision Economics
Quarterly Journal of Economics
Quarterly Review of Economics and Business
RAND Journal of Economics
Review of Industrial Organization
Review of International Economics
Scandinavian Journal of Economics

Outside Evaluator—Research Proposals and Tenure & Promotion Cases

National Science Foundation
Small Business Administration
Several economics departments (identities disclosed on request)

EXHIBIT 2

RECEIVED
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OFFICE OF THE SECRETARY

Supplemental Affidavit of Marius Schwartz on Behalf of the U. S. Department of Justice

THE "OPEN LOCAL MARKET STANDARD" FOR AUTHORIZING BOC INTERLATA ENTRY: REPLY TO BOC CRITICISMS

by

MARIUS SCHWARTZ

Supplemental Affidavit on behalf of U.S. Department of Justice

November 3, 1997

TABLE OF CONTENTS

Professional Background

1. My name is Marius Schwartz. I am a Professor of Economics at Georgetown University. I received my B.Sc. degree with first-class honors from the London School of Economics and my Ph.D. in economics from the University of California at Los Angeles. My research areas are in industrial organization, antitrust and regulation. I have published on these subjects and have taught courses in these areas to students and to executives and government officials in the U.S. and other countries.

2. From April 1995 to June 1996, I was the senior staff economist at the President's Council of Economic Advisers responsible for antitrust and regulated industries. Much of my work was on regulatory reform in telecommunications, and I participated in the development of the Administration's policy leading up to the enactment of the 1996 Telecommunications Act. From 1980 to the present, I have served intermittently as a consultant to the Antitrust Division of the Department of Justice on a variety of competition matters. I have also consulted for international agencies and private companies. My curriculum vitae is attached as Exhibit 1.

3. I submitted an affidavit to the Federal Communications Commission on behalf of the U.S. Department of Justice ("DOJ") in connection with the application by SBC to provide interLATA services in Oklahoma, and of Ameritech to provide such services in Michigan.[1]

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[1] Affidavit of Marius Schwartz, "Competitive Implications of Bell Operating Company Entry into Long-Distance Telecommunications Services," May 14, 1997, filed with the FCC as an appendix to the Department of Justice's evaluation of SBC's application to provide interLATA services in Oklahoma, May 16, 1997 (In the Matter of Application of SBC Communications, Inc. Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Oklahoma, CC Docket 97-121), and of Ameritech's application in Michigan, June 25, 1997 (In the Matter of Application of Ameritech Michigan Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in the State of Michigan, CC Docket 97-137). The affidavit is available on the Internet at: *www.usdoj.gov/atr/statements/Affiwp60.htm*.

Scope and Purpose of This Affidavit

4. My original affidavit analyzed the competitive implications of authorizing BOC in-region interLATA entry and explained why the Department of Justice's Open Local Market standard for authorizing such entry ("DOJ standard" or "Open Local Market standard") is economically sound. That standard requires the local market in the applicant BOC's state to have been fully and irreversibly opened to competition through all three entry modes envisioned by the Telecommunications Act—facilities based, resale, and unbundled network elements.

5. The most reliable demonstration of such opening is observing meaningful local entry of all three modes. Failing that, one looks to verify that the main conditions for an open market are in place. These are: (1) meaningful implementation of the competitive checklist items, notably establishment of the various new wholesale systems (such as Operations Support Systems) and network unbundling needed to facilitate local competition, and demonstration—over a duration sufficient to yield useful performance benchmarks—that these systems are capable of functioning under real business conditions and of being scaled up appropriately to accommodate entrant demand; (2) assurance that BOC prices for inputs needed by local entrants (interconnection, unbundled network elements) will remain reasonable and cost based after BOC interLATA entry is approved; and (3) the absence of major state or local regulatory barriers or any other barriers likely to significantly impede competition.

6. This standard has since been criticized by both BOCs and IXCs. From the IXC end, the standard is criticized as too permissive. It allegedly understates the danger that premature BOC entry poses to competition in the long-distance market by overstating the efficacy of regulatory safeguards, and therefore errs in not requiring effective local competition as a prerequisite for authorizing BOC entry.[2] As I explained, however, effective local competition—while it may be the appropriate standard for complete deregulation—is an overly stringent standard for allowing BOC entry subject to ongoing regulatory and antitrust safeguards. (Schwartz Affidavit, ¶¶ 150-153.) Such safeguards

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2 See, e.g., Comments of MCI Telecommunications Corporation, CC Docket No. 97-137 (June 10, 1997) and Reply Comments of MCI Telecommunications Corporation, CC Docket No. 97-121 (May 27, 1997).

will remain available after BOC entry is authorized.

7. The more numerous criticisms have come from the other end: the BOCs and their economic experts argue that the standard is too restrictive and unworkable. The present affidavit addresses those criticisms.[3]

I. WHY BENEFITS FROM THE "OPEN MARKET STANDARD" ARE LIKELY TO SUBSTANTIALLY OUTWEIGH THE COSTS

8. Rather than respond to the BOC experts individually, I focus on their main criticisms of the DOJ standard—as they portray it:

(a) *The standard needlessly delays BOC interLATA entry.* Such delay is not necessary to advance local competition and may retard local competition—by giving IXCs strategic incentives to hold back from aggressively entering local markets for fear that doing so would hasten approval of BOC entry. (Kahn and Tardiff Reply Aff., ¶¶ 62, 64.)

(b) *The standard is overly regulatory and involves micro-management by the DOJ.* (Kahn and Tardiff Reply Aff., ¶ 65.) Rather than letting competition determine market outcomes, it requires actual success of competitors to demonstrate that the market is open. For example, it requires metric tests of local competition—a BOC

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3 See, e.g., in the Oklahoma proceeding, Reply Affidavit of Alfred E. Kahn and Timothy J. Tardiff on behalf of SBC, May 20, 1997 ("Kahn and Tardiff"), and SBC's Response to DOJ's Evaluation, May 27, 1997 ("SBC Response"). In the Michigan proceeding, see: Reply Affidavit of BellSouth in support of Ameritech's application ("BellSouth Reply, Michigan"), July 7, 1997, and the appended Declaration of Jerry Hausman ("Hausman 1"); and the following submissions on behalf of Ameritech: Affidavit of Robert Crandall and Leonard Waverman, April 11, 1997 ("Crandall and Waverman") and Reply Affidavit, July 3, 1997 ("Crandall and Waverman Reply"); Reply Affidavit of Richard J. Gilbert and John C. Panzar, July 2, 1997 ("Gilbert and Panzar"); and Reply Affidavit of Paul W. MacAvoy, July 2, 1997 ("MacAvoy"). In the application by BellSouth in South Carolina, see: Affidavit of Richard J. Gilbert, September 30, 1997 ("Gilbert"); Declaration of Jerry A. Hausman, September 30, 1997 ("Hausman 2"); and Declaration of Richard L. Schmalensee, September 30, 1997 ("Schmalensee"), all on behalf of BellSouth.

must lose a certain number of customers in order to prove that new wholesale support systems work. (SBC Response, at 13.) And it requires observing all three entry modes—through own facilities, unbundled elements, and resale—in order to prove that market is open to all these three modes. (Gilbert and Panzar Reply Aff., ¶ 9.)

(c) *The costs resulting from the delay of BOC entry caused by the restrictive DOJ standard are huge and outweigh any benefits.* All BOC experts referenced in footnote 3 make this claim, explicitly or implicitly. For example, Professor Kahn and Dr. Tardiff assert: "Perhaps most fundamentally, Professor Schwartz's conclusion that the benefits from delay outweigh the cost is speculative...he has provided no basis whatever for an objective assessment of the comparative benefits or losses..." (Kahn and Tardiff Reply Aff., ¶ 65.)

9. Let me begin by refuting the last and most important point. It is true that my affidavit did not attempt to explicitly quantify the benefits or costs of delayed BOC entry. While I am sympathetic to attempts by some BOC experts to try and quantify such effects, forecasts are only as good as their underlying assumptions. Given the tremendous uncertainty involved in the case at hand, forecasting exercises are inherently speculative. Moreover, as I will show in Part II of this affidavit, some forecasts of the benefits of BOC entry produce the illusion of precision, when in fact they hinge on dubious assumptions that cause the estimates of the benefits to be grossly inflated.

10. Instead of speculative forecasting, my affidavit highlighted transparent and robust factors which are likely to ensure that, under a range of plausible assumptions, the benefits of delaying BOC entry as necessary to implement the key measures needed to open local markets will significantly outweigh the costs. To reiterate my argument, these key factors are as follows:

Different current conditions in the local and interLATA markets

A. The "local market" refers to the full set of services that require access to LECs' underlying local network facilities, including basic local service, exchange access, and "vertical" services. The local market, so defined, is considerably larger than the interLATA market. In addition, the local market is a regulated monopoly rife with distortions, while the long-distance market is far more competitive. For both reasons, the scope for improving economic performance by increasing the degree of competition is considerably greater in the local market than in long distance.

Differential impact of Open Market Standard on competition in the two markets

B. The standard would advance local competition much more rapidly and efficiently than would a weaker entry standard that did not insist on significant BOC cooperation as a condition for opening local markets but instead relied largely on post-entry measures.

C. In contrast, the standard need not impose a significant delay of BOC interLATA entry. The extent of delay in BOC entry is largely under BOC control and in most cases could be modest if the BOCs cooperate in implementing the measures required by the Act as important for facilitating local competition.

11. In short, the above logic implies that adhering to the Open Market Standard rather than a more permissive alternative will yield large benefits in advancing local competition at the expense of comparatively modest and short-lived costs in the long distance market; moreover, authorizing BOC entry while failing to open local markets to competition could over time pose growing risks also to long distance competition.

12. This logic also addresses BOC criticisms that delaying BOC entry imposes intolerable costs

by delaying the availability of integrated services—the provision by a supplier of local and long distance services (and perhaps other services as well). It is widely acknowledged that integrated services are valuable to consumers (e.g., one-stop shopping) and can reduce retailing costs for suppliers, and I noted in my initial affidavit that delaying BOC interLATA entry and thus BOCs' ability to offer such services comes at a cost. But this cost is short lived, and is outweighed by the benefit: instead of leaving provision of integrated services as a monopoly of the local BOC, opening the local market enhances the ability of all other providers to compete for providing integrated services. Therefore, if one views integrated services as important, then permitting broad competition in their provision—by making currently monopolized local inputs and services widely and efficiently available to competitors—should be a central goal of good public policy.

13. The remainder of Part I of this affidavit elaborates on points A through C above. In so doing, it addresses the previously mentioned BOC criticisms, and corrects some misconceptions about the DOJ's Open Market Standard and its implementation. Part II examines more closely some inflated claims about foregone benefits in the long distance markets from delaying BOC entry. Part III concludes that the DOJ Standard indeed is likely to advance the competition goals of the Telecommunications Act more effectively than would a more permissive entry standard..

A. The Larger Potential Gains from Increasing Competition in the Local Market Than in the InterLATA Market

14. My affidavit discussed at length the potentially significant benefits of BOC entry. (Schwartz Aff., ¶¶ 7, 59-61, 82-98.) I noted that these benefits might include: enabling the BOCs to realize savings on retailing costs by jointly offering local and long-distance services; providing consumers the benefits of one-stop shopping and other integrated services (such as new bundles of services); and increasing the degree of competition in long-distance markets. Indeed, various BOCs and their experts have quoted my affidavit extensively on this point, as supposedly confirming that the DOJ standard imposes intolerable costs by delaying the realization of such efficiencies. This inference, however, is incorrect: one must consider not only the costs that the DOJ standard might impose relative to a more permissive standard, but also its benefits in promoting local competition.

15. The goal of the 1996 Telecommunications Act is to open *all* markets to competition. This includes, in particular, the local market which is both much larger than long-distance and is currently the least open to competition. It is important not to lose track of this point—the key bottleneck that needs to be unclogged is in the local market. As I explained in my affidavit, an appropriate standard for BOC interLATA entry can play a key role in advancing the Act's local competition objectives: incumbents' cooperation is vital in opening local markets, and cooperation will be secured more effectively through a Section 271 standard that conditions entry on the prior implementation of key market-opening measures.

16. Thus, in evaluating the DOJ standard it is imperative to address the benefits from permitting accelerated development of competition in local services, and therefore also in integrated services—whose provision requires access to the currently-monopolized local services and inputs of LECs. It is bad policy to consider only the possible costs of delaying BOC entry, without recognizing the tradeoff involved. The remainder of this Section A explains why the potential benefits of increasing competition in the local market are so much greater than the potential losses in the long distance market from delaying BOC entry. Unfortunately, BOC experts are silent on the benefits of local competition, or even contend that the Open Market standard for BOC interLATA entry can play no major role in fostering local competition and could even retard it. I refute these claims in Section B, and in Section C, I refute the claims that the delay in BOC entry is likely to be unduly long.

1. The Local Market Is Much Larger

17. Some BOC experts as well as other commentators frequently refer to the "$76 billion long-distance market." This is an unfortunate exaggeration: in 1995, long-distance carriers' revenues were $76 billion ($73 billion was from interLATA services, including international), but $26 billion was paid to the BOCs and other incumbent local exchange carriers (LECs) in access charges. Including these access charges for interLATA and intraLATA toll calls, LECs' total revenues exceeded $100 billion. (Schwartz Aff., ¶ 31 and Table 1.) In revenue terms the local market is

therefore about *twice as large* as long-distance.[4] The local market is also considerably larger by various other measures, *e.g.*, employment and embedded capital. Thus, the markets from which BOCs are temporarily precluded—interLATA services—are considerably smaller than the local markets which we are attempting to open to competition. The same *percentage* improvement in economic performance in both markets in response to increased competition would therefore generate considerably greater *total* benefits in the local market.

2. The Local Market is Largely a Regulated Monopoly, While the InterLATA Market Is Substantially More Competitive

18. Putting aside the much larger size of the local market, there is much more room to improve economic performance in the local market than in the interLATA market by fostering additional competition—because of the different current competitive conditions in the two markets. The interLATA market is substantially more competitive (though certainly not perfectly competitive) and largely unregulated. Moreover, absent consolidation, long-distance competition will continue to increase even without BOC entry. By contrast, the local market is largely a regulated monopoly rife with distortions. The fundamental tenet of the Telecom Act is that, as a vehicle for delivering good economic performance, competition is far superior to regulated monopoly. Thus, even a modest dose of increased competition in the local market can be expected to generate major benefits—in the form of reduced costs, improved quality, increased variety of offerings, rationalization of the price structure in local markets, as well as spillover benefits in adjacent markets for interexchange and integrated services.

19. The BOCs' own experts, in justifying their estimates of the gains that BOC entry would bring

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4 In 1996, long-distance carriers' revenues rose to $82 billion, and $58.4 billion net of access charges (compared to $50 billion in 1995). Federal Communications Commission, *Preliminary Statistics of Communications Common Carriers*, at Tables 1.4, 2.9 (1997). Total LEC operating revenues were, according to Table 2.9, $100.7 billion ($78.7 billion for the BOCs). The FCC's *TRS* data, however, which was used in computing Table 1 of my earlier affidavit, would likely give the LECs a higher revenue in 1996 than the $100.7 billion reported by *SCCC* (in 1995, *TRS* put LECs' revenue at the $102.8 billion cited in my Table 1, while the *SCCC* put it at only $95.6 billion.) Thus, the two-to-one revenue relationship between the local and long distance markets is approximately preserved in 1996.

by stimulating interLATA competition, identify substantial benefits that increased competition has brought in other industries. Dr. Robert Crandall and Professor Leonard Waverman, in their affidavit on behalf of Ameritech in Michigan (April 1997), survey the effect of increased competition in several previously tight oligopolies (in their view): the U.S. luxury car market; the U.S. carbon steel industry the U.K. mobile telecom market; long distance telecom services in Chile; and interLATA and intraLATA services in Connecticut. In all cases they report impressive gains in economic performance.

20. For example, Japanese entry into the U.S. luxury car markets in the early 1990s led to "quality improvements and innovation..." by all producers (Crandall and Waverman Aff., ¶¶ 19). Competition by steel producing minimills in the U.S. led them to cut prices by about 20% more than the dominant vertically integrated steel producers for "long" products (such as rebars and wire rods) in the 1970s and early 1980s (*id.*, ¶ 27); and served to reduce industry prices for sheet steel products between 1970-1994 by about 9% (*id.*, ¶ 31). Entry by two additional cellular providers into the previous U.K. duopoly since 1993 stimulated innovation in pricing, such as the introduction of "location pricing" (*id.*, ¶ 39) and reduced the effective rate per minute (total fixed and variable charges averaged over the number of minutes) paid by business subscribers in peak periods by about 32% (*id.*, ¶¶ 40-41). In Chile, liberalization was introduced in 1994 and "[b]y September 1996, average long distance rates had fallen by more than 50 percent. . ." (*id.*, ¶ 48). And the entry of SNET into interLATA (interstate) services in Connecticut in 1994 "has resulted in effective reductions in intrastate toll rates of at least 10 percent per year" (*id.*, ¶ 58) as AT&T responded by cutting its intrastate rates rather than interstate rates, which are subject to national geographic averaging requirements. (The SNET experience is discussed further in Part II of this affidavit.)

21. I agree wholeheartedly that increasing competition in an industry is likely to deliver substantial economic benefits to consumers. My only quarrel on this score with BOC experts is this: if additional competition can deliver such impressive gains in oligopolies, why do they not expect even greater benefits from stimulating competition in local BOC markets that today are largely *monopolies*?

22. The objection that fewer gains can be expected because BOC prices are regulated, and in some cases are set perhaps even below incremental cost (e.g., for basic residential service at least in rural areas), is not persuasive. The very premise of the Telecommunications Act is that regulated

monopoly is a vastly inferior institution to competition. The gains from competition can be expected to come from the usual stimulus that competition provides to improve productivity and thereby cut cost; to offer innovative products and services (including new pricing options for existing services); and to improve quality. These benefits can be expected to be at least as large in local telecommunications markets that are starting from a position of far less competition than many if not all the examples cited by Crandall and Waverman. Moreover, competition can deliver still further gains, by reducing the need for cumbersome regulation that can reduce firms' incentives to operate efficiently and their flexibility to do so.

23. While these gains may not show up, at least initially, in lower prices for particular services whose prices are being held below incremental costs (such as may well be the case for basic residential service in some places), competition will deliver substantial benefits overall. *Lower prices* will emerge for services that today are substantially overpriced, thereby benefitting consumers as well as increasing overall welfare by stimulating usage of such services. Such over-priced services include: intraLATA toll; "vertical" services (caller ID, call waiting); high speed lines such as ISDN (in some states); and exchange access for interLATA services. Moreover, as universal service subsidies become competitively neutral and available to entrants and not solely to incumbent LECs, competitive forces should enhance efficiency also in the provision of the currently under-priced services. Consumers will enjoy *better customer service* (such as 24 hour customer service currently offered by IXCs, as opposed to nine-to-five hours offered by many LECs). And consumers will benefit from expanded options of products and services. Indeed, the BOCs themselves have acknowledged that competition from Competitive Access Providers have prompted the BOCs to upgrade their own offerings.[5]

24. Professor David Newbery reports some revealing statistics about the scope for improved productivity that competition can spur.[6] British Telecommunications (BT) was privatized in 1984,

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5 "This competition (from CAPs) was driving the Bell companies to lower the price *and raise the quality* (emphasis added) of their local exchange services even before the 1996 Act." Joint Response of Bell Atlantic and US West to letter from then acting Assistant Attorney General Joel Klein, December 13, 1996, 32-33.

6 David M. Newbery, "Privatization and Liberalization of Network Utilities," Presidential Address to the Eleventh Annual Congress of the European Economic Association, Istanbul, August 22, 1996, available as Working Paper No. 9620, Department of Applied Economics, University of Cambridge. See also OFTEL,

but there was little change in its rate of growth of productivity relative to UK manufacturing as a whole after privatization until the entry of a large number of new competitors after the "Duopoly Review" in 1991, which allowed additional entry into long distance (beyond the initial BT and Mercury duopoly), and competitive facilities entry into local markets. Professor Newbery's work suggests that the ratio of BT's productivity per worker relative to that of the UK manufacturing industry rose only a few percent from 1984 to 1991, but about 30 percent from 1992 to 1995.[7]

25. In short, economic theory as well as evidence from other industries lead one to expect substantial gains from introducing more competition into today's heavily regulated and predominantly monopoly local markets, and a subsequent move towards more light-handed regulation. Indeed, the emergence of competition could permit greater efficiencies also from BOC interLATA entry, by making it appropriate to reconsider the design of safeguards such as strict separate affiliate requirements (§ 272) that are deemed necessary in a less competitive environment but that entail certain inefficiencies. Thus, large improvements in economic performance are likely to flow from the accelerated development of local competition made possible by appropriately conditioning BOC interLATA entry on prior implementation of market-opening measures.

Consultative Document, Pricing of Telecommunication Services from 1997, Annex B, Table B2(a) (1997).

7 Newbery's Figure 3 also shows that even more dramatic acceleration in the rate of productivity growth was observed in the *electricity* sector, following its privatization—which was coupled with the introduction of competition in both the generation and supply functions (but not transmission or local distribution). Since privatization of BT was not by itself sufficient to generate large productivity improvements, a reasonable inference is that a large part of the gains in electricity also can be attributable to the advent of competition.

B. The Open Market Standard Advances Local Competition More Rapidly and More Efficiently Than Would a Weaker Entry Standard

26. BOC experts maintain that the Open Market Standard may delay local competition; that one could and should permit BOC interLATA entry and rely on post-entry safeguards against BOC conduct to open local markets; and that the Standard entails unnecessary intrusive regulation. This section rebuts these contentions. Subsection 1 addresses claims that the Standard induces potential entrants to strategically delay their own entry into local markets. Subsection 2 explains that local entry requires not only incentives but also ability, and that the ability of entrants to enter rapidly and efficiently hinges on incumbents' cooperation. Subsection 3 notes the dangers of relying primarily on post-entry enforcement to secure opening of local markets, rather than requiring sufficient market opening measures as a precondition for authorizing BOC interLATA entry. Subsection 4 explains why, by insisting on such measures as a precondition, the Open Market Standard will ultimately *reduce* the need for intrusive regulation.

1. Alleged Incentives for Strategic Delay by Local Entrants

27. BOC experts argue that authorizing BOC interLATA entry is likely to accelerate rather than delay local competition, by removing the alleged incentive of the major IXCs to strategically postpone their own local entry for fear that it would trigger approval of BOC interLATA entry. Indeed, various BOC experts cite this strategic incentive rather than BOC-mounted barriers as the main cause of the slow development of local competition. This argument is erroneous for several reasons.

28. First, the Open Market Standard does not require local entry by IXCs. Indeed, the DOJ has made clear that its standard does not require entry by any particular competitor.[8] As explained in Section C below, the extent and diversity of actual local competition that is observed does establish—and properly so—important presumptions for whether the market indeed is open. But the standard recognizes that lack of entry may be due to independent business decisions unrelated to

[8] See DOJ Oklahoma Section 271 Evaluation at 41, 48-50.

artificial entry barriers. For this reason, the Open Market Standard can support entry, even if no competitor chooses to enter, so long as the BOC has established that the absence of entry is not due to the artificial barriers to competition that the Act intended to eliminate.[9]

29. Second, whatever the merit of the claim about strategic delay incentives of IXCs, one must distinguish between IXCs and other potential local competitors ("CLECs") that are absent from the long distance market. Such CLECs have no long-distance base to protect and thus would have considerably weaker incentives to delay their local entry for purposes of delaying BOC interLATA authority.[10] Moreover, it is difficult to believe that such diluted incentives could suffice to induce *all* potential local entrants—including CLECs that have no major initial business in either the long distance or local markets—to hold back on expanding aggressively into the local market. If other entrants were to engage in such strategic delay then, assuming the local market were truly open to competition, it would pay any firm that currently has no presence (or only a small one) in the local and long distance markets to enter the local market aggressively to seize market share and exploit any first-mover advantages.

30. Third, the theory that local entry is delayed primarily due to CLECs' reluctance to trigger approval of BOC interLATA authority is not supported by the experience in states where non-BOC LECs already offer interLATA services. In Connecticut, SNET has offered interLATA services for several years. Therefore, the strategic delay motive that BOC experts allege should be considerably weaker in SNET's territories, at least for smaller, non-IXC CLECs. Yet the extent of local entry, including by small, non-IXC CLECs, has, to my knowledge, been no greater than in BOC states.

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9 Among other things, the BOC must demonstrate that at the time of application it has made wholesale support systems legally and practically available at appropriate prices and levels of performance; benchmarked such performance; and demonstrated that such systems can be scaled or extended to meet future demand. On the DOJ Standard, see DOJ Oklahoma Section 271 Evaluation at 27-29, 41, 48-50.

10 Conceivably, even such entrants may gain somewhat by delaying BOC entry. Delaying BOC entry *might*: (a) allow such CLECs to extract from state commissions additional measures to open local markets prior to authorizing the BOC interLATA entry; or (b) delay IXCs' entry into local markets (if BOC experts are correct about IXCs' strategic incentives to refrain from local entry in order to delay BOC's interLATA authority), for purposes of forestalling the IXCs as competitors to the CLECs in local markets. But such incentives would be rather weak and, as explained in the text, are unlikely to outweigh the benefits to a CLEC of accelerating its own local entry.